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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,456	08/16/2001	Richard R. Oehler	NWISP001	3395

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EXAMINER

EL HADY, NABIL M

ART UNIT	PAPER NUMBER
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2152

DATE MAILED: 12/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/932,456

Applicant(s)

OEHLER ET AL.

Examiner

Nabil M. El-Hady

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/8/2005 has been entered.
2. Claims 1-41 are pending in this application.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
5. Claims 1-4, 6-10, 12, 13, 16, 20, 21, 23-26, 28, 31, 35-37, 39, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted prior Art, hereafter "AAPA".

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6. As to claims 36 and 39, AAPA discloses the invention substantially as claimed including a computer implemented method for use in a computer system (the HyperTransport HT architecture) having a plurality of resources including a plurality of processors (Fig. 2) and a distributed point-to-point transmission infrastructure for interconnecting the plurality of processors (spec. page 2, lines 3-6), the method comprising configuring the plurality of resources into at least one partition (primary processor 202a, Fig. 2, spec. page 2, lines 17-21), each partition comprising a subset of the plurality of resources, the configuring of resources being effected (routing tables, spec., page 2, lines 6-8, 18-21) by enabling at least one link between at least one of the plurality of processors and at least other one of the plurality of processors (spec., page 2, lines 6-8, 20-21), the at least one link corresponding to a portion of the point-to-point transmission infrastructure (spec., page 2, lines 3-8, 20-21).

7. AAPA does not spell out that enabling is according to "a previously specified partitioning schema, which corresponds to a priori definition of the subsets of resources". AAPA, however, clearly discloses that a primary processor builds (or writes to) routing tables using the information collected from all system resources utilizing a discovery algorithm in order to enable the links between the plurality of processors. The building of a routing table in a specific processor constitutes writing instructions/commands/information about the links between such processor and the other processors (spec. page 2, lines 6-8, 20-21). Obviously, these instructions/commands/information would be based on the primary processor figuring out the topology of the system based on the collected information. Assuming that all system processors 202a-202d of Fig. 2 are responding to the discovery algorithm, then the primary processor would build the routing tables in these processors in accordance with a topology picture of the system showing processors 202a-202d as one partition. Assuming that all system

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processors except 202d of Fig. 2 are responding to the discovery algorithm, then the primary processor would build the routing tables of only processors 202a-202c in accordance with a topology picture, which consider processors 202a-202c as a partition, or a subset of the resources. The topology picture that has to be created by the primary processor in order to be able to build the routing tables and hence enable the links is certainly considered "a previously specified partitioning schema which corresponds to a priori definition of the subsets of resources". "Previously specified" and "a priori definition" are interpreted by the examiner as prior to building the routing tables.

8. As to claims 1 and 23, the claims are rejected for the same reasons as claims 36 and 39 above. In addition, AAPA discloses a computer system (the HyperTransport HT architecture) comprising: a plurality of resources including a plurality of processors (Fig. 2); a distributed point-to-point transmission infrastructure for interconnecting the plurality of processors (spec. page 2, lines 3-6), and at least one partitioning processor for configuring the plurality of resources into at least one partition (primary processor 202a, Fig. 2, spec. page 2, lines 17-21), each partition comprising a subset of the plurality of resources, the at least one partitioning processor (primary processor 202a, Fig. 2) being operable to configure the resources by writing to at least one of a plurality of routing tables associated with the processors (spec., page 2, lines 6-8, 18-21), each routing table representing links between an associated processor and other ones of the plurality of processors, the links corresponding to portions of the point-to-point transmission infrastructure (spec., page 2, lines 6-8, 20-21).

9. As to claims 2, 3, and 24, AAPA includes at least one of a memory device, a memory range, an I/O bus, I/O devices coupled to an I/O bus, and an interrupt mechanism for routing

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interrupts, I/O switch, the I/O switch having one the routing tables associated therewith representing links between the I/O switch, at least one of the processors, and at least one I/O resource (inherent in Fig. 2).

10. As to claim 4, AAPA discloses the at least one I/O resource comprises at least one of an Ethernet device and a SCSI device (Fig. 2).

11. As to claims 6 and 25, AAPA does not specifically disclose the detail of the distributed point-to-point transmission infrastructure. However, it would have been obvious to one skilled in the art at the time of the invention that coherent or non-coherent Hyper Transport infrastructure is an inherent detail of the Hyper Transport architecture discloses AAPA (spec. page 2, lines 10-16).

12. As to claims 7 and 8, AAPA does not specifically disclose the processors topology. However, it would have been obvious to one skilled in the art at the time of the invention that AAPA's disclosure can support a variety of processor topologies specially if the routing tables are software programmable. The choice, then, of processor's topology is a matter of design preference.

13. As to claim 9, AAPA discloses the distributed point-to-point transmission infrastructure directly connects each of the processors with every other one of the processors (spec. page 2, lines 3-6).

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14. As to claims 10, 21, and 26, AAPA discloses the at least one partitioning processor comprises at least one of the plurality of processors (primary processor 202a, Fig. 2).

15. As to claim 12, AAPA discloses a boot memory for facilitating initialization of the computer system via at least one of the plurality of processors as the at least one partitioning processor (spec. page 2, lines 18-20).

16. As to claims 13 and 28, AAPA discloses that the previously specified partitioning schema is generated in response to an event occurring during operation of the computer system (at initialization, spec. page 2, lines 18-21).

17. As to claims 16 and 31, AAPA discloses the at least one partitioning processor is operable to generate the routing tables upon initialization of the computer system (spec. page 2, lines 18-21).

18. As to claims 20 and 35, AAPA discloses the at least one partition comprises a single partition including all operational ones of the plurality of resource (spec. page 2, lines 21-23).

19. As to claims 37 and 40, AAPA discloses the enabling of the at least one link comprises writing to at least one of a plurality of routing tables associated with the processors (spec. page 2, lines 6-8, 18-21).

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20. Claims 1, 23, 36, and 39, are further rejected under 35 U.S.C. 103(a), and claims 15 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted prior Art, hereafter "AAPA" in view of Masuyama et al. (US 6,961,761), hereafter "Masuyama".

21. As to claims 1, 23, 36, and 39, the claims are rejected for the same reasons as disclosed by AAPA above. In addition, Masuyama discloses a system and method for partitioning a computer system where writing routing tables (or enabling links between computers) is according to a previously specified partitioning schema which corresponds to a priori definition of the subsets of resources (col. 1, line 62 to col. 2, line 3; col. 3, lines 35-38; col. 5, lines 17-21). It would have been obvious to one skilled in the art at the time of the invention to combine AAPA teachings and Masuyama because Masuyama's use of previously specified partitioning schema would improve control of partition of the system discloses by AAPA (see, for example, Masuyama, col. 1, lines 54-56).

22. As to claims 15 and 30, AAPA does not apparently disclose a user interface to specify the partitioning schema. Masuyama discloses a user interface for providing an input from the user (col. 3, lines 11-23; 170 of Fig. 2). It would have been obvious to one skilled in the art at the time of the invention to modify AAPA's teachings by adding a user interface with a link to the partitioning processor in order to allow a system management to set a partitioning schema in specific events as needed. This would add enhanced flexibility to AAPA system.

23. Claims 1, 23, 36, and 39 are further rejected under 35 U.S.C. 103(a), and claims 5, 11, 18, 19, 22, 27, 33, 34, 38, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted prior Art, hereafter "AAPA" in view of Van Doren (US 2001/0037435).

24. Van Doren is cited by the applicant in IDS paper filed 2/6/2003.

25. As to claims 1, 23, 36, and 39, the claims are rejected for the same reasons as disclosed by AAPA above. In addition, Van Doren, discloses a system and method for partitioning a computer system where writing routing tables (or enabling links between computers) is according to a previously specified partitioning schema which corresponds to a priori definition of the subsets of resources (The elected processor preferably programs the routing table in accordance with programmed I/O or control status register write operation [0058]). It would have been obvious to one skilled in the art at the time of the invention to combine AAPA teachings and Van Doren because Van Doren's use of previously specified partitioning schema would improve control of partition of the system discloses by AAPA (see, for example, Van Doren, [0010]).

26. As to claim 5, Van Dorn discloses each routing table comprises a table of entries; each of selected ones of the entries associating an address of one of the resources with one of the processors and a link for connecting with the one of the processors (Fig. 5).

27. As to claims 11 and 27, van Dorn discloses a separate partitioning entity from the plurality of processors ([0056]—0057)).

28. As to claims 18, 19, 33, and 34, Van Dorn discloses the at least one partition comprises a plurality of partitions, a functional subset of the plurality of resources ([0011]; [0015]; and [0046]).

29. As to claim 22, Van Dorn discloses the at least one partitioning processor comprises more than one partitioning processor ([0058]).

30. As to claims 38 and 41, Van Dorn discloses closing at least one switch associated with the at least one link according to the previously specified partitioning schema ([0033])

31. Claims 1, 23, 36, and 39 are further rejected under 35 U.S.C. 103(a), and claims 14, 17, 29, and 32 are rejected under 35 U.S.C. 103(a), as being unpatentable over Applicant Admitted prior Art, hereafter "AAPA" in view of Lorenzen et al. (US 6,188,759), hereafter "Lorenzen".

32. Lorenzen et al. is cited by the applicant in IDS paper filed 2/6/2003.

33. As to claims 1, 23, 36, and 39, the claims are rejected for the same reasons as disclosed by AAPA above. In addition, Lorenzen, discloses a system and method for partitioning a computer system where writing routing tables (or enabling links between computers "switches") is according to a previously specified partitioning schema which corresponds to a priori definition of the subsets of resources (network processor 16 communicates with each switch 12 to collect information and respond with routing recommendation, col. 2, lines 46-49, and provides each switch with routing protocols in response to various factors, including congestion and equipment operation, col. 2, lines 55-60, i.e. a previously specified partitioning schema would be a result of collecting this information and in effect will corresponds to a definition of the subsets of resources that are decided from congestion and equipment operation). It would have been obvious to one skilled in the art at the time of the invention to combine AAPA teachings

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and Larenzen because Larenzen's use of previously specified partitioning schema would improve control of partition of the system discloses by AAPA (see, for example, col. 1, lines 18-30).

34. As to claims 14, 17, 29, and 32, AAPA does not disclose that the previously specified partitioning schema is generated in response to failure of at least one of the processors, a change in operating load associated with at least one of the resource, passage of a period of time, use of a particular software, and a change in available power resource. Lorenzen, on the other hand, discloses dynamic generation to the specified partitioning (routing) schema while the system is in operation (col. 1, lines 45-46) in accordance to different events (col. 1, lines 60-65; col. 4, lines 5-11) and which obviously may include any variations of operational event.

35. Applicant's arguments filed 9/8/2005 have been fully considered but they are not persuasive.

36. In the latest remarks, applicants argued in substance that (1), "a priori knowledge of the eventual system configuration is inherent in the term previously specified" in the claim, (2), Lorenzen is not relevant, it alters routing recommendations not portioning of resources.

37. In addition to the arguments maintained from previous examiner response, examiner respectfully traverses applicants' latest remarks.

38. As to point (1), it is obvious that a priori knowledge of the eventual system configuration is inherent in AAPA's disclosure as a direct outcome of the information collected by the primary

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processor at start-up. This eventual system configuration reflects the “previously specified partitioning schema”.

39. As to point (2), this is how examiner interprets the disclosure of Lorenzen. A primary processor 16 of Fig. 1, collect various switch (resources) and network information in order to develop a partitioning scheme by writing routing recommendation to routing tables in the switches (resources). Recommended routing instruction is a reflection of the partitioning of the system, which is due to various factors including congestion points and equipment operation, i.e. such condition with affect which switch is linked to which switch. See the previous rejection where Lorenzen is used.

40. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Zalewski et al. (US 6,260,068) ; and Barabash et al. (US 5,241,652).

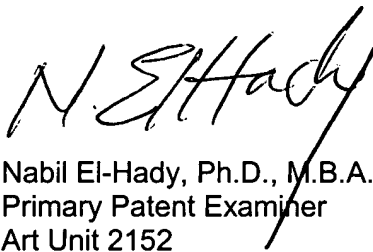
41. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nabil M. El-Hady whose telephone number is (571) 272-3963. The examiner can normally be reached on 9:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

December 20, 2005


Nabil El-Hady, Ph.D., M.B.A.
Primary Patent Examiner
Art Unit 2152